

WHAT IS CLAIMED IS

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1. A semiconductor device comprising:
a thick film wiring having a first film thickness;
a thin film wiring having a second film thickness that
5 is smaller than the first film thickness, said thick film wiring
and said thin film wiring being formed in a single layer; and
a hard mask covering the surface of said thick film
therewith;
wherein said hard mask is resistant to etching adapted
10 for patterning of said thick film wiring and also to etching adapted
for patterning of said thin film wiring, while being resistant
to heat.
2. The semiconductor device according to Claim 1, wherein
said hard mask comprises a silicon oxide film.
- 15 3. The semiconductor device according to Claim 1, wherein
said hard mask comprises a silicon nitride film.
4. The semiconductor device according to Claim 1, wherein
said hard mask comprises a tungsten film.
- 20 5. The semiconductor device according to Claim 1, wherein
said thick film wiring serves as a wiring for an electric supply
of said semiconductor device or as a wiring for ground.
6. A semiconductor device comprising:
a thick film wiring having a first film thickness;
a thin film wiring having a second film thickness smaller
25 than said first film thickness, said thick film wiring and said
thin film wiring being formed in a single layer; and
a metallic anti-reflective film covering the surface of
said thin film wiring.
7. The semiconductor device according to Claim 6, wherein
30 said thick film wiring has a flattened portion having a film
thickness equal to said thin film wiring, and a protruded portion
formed on said flattened portion, said protruded portion having

such a layout that an occupying area thereof is smaller than that of said flattened portion.

8. The semiconductor device according to Claim 7, wherein a boundary between said flattened portion and said protruded portion is constituted of a single metal material, and a metallic anti-reflective film is provided to cover the surface of said thick film wiring.

9. The semiconductor device according to Claim 7, wherein a metallic anti-reflective film is interposed at the boundary between said flattened portion and said protruded portion to cover the entire surface of said flattened portion therewith.

10. The semiconductor device according to Claim 6, wherein said thick film wiring serves as a wiring for an electric supply of said semiconductor device or as a wiring for ground.

15 11. A semiconductor device comprising:

a thick film wiring having a first film thickness;

a thin film wiring having a second film thickness smaller than said first film thickness, said thick film wiring and said thin film wiring being formed in a single layer; and

20 an inter-layer insulating film surrounding said thick film wiring and covering said thin film wiring;

wherein said thick film wiring also serves as a plug which functions as a plug capable of connection with a wiring layer formed as an upper layer on said inter-layer insulating film.

25 12. The semiconductor device according to Claim 11, further comprising a metallic anti-reflective film covering a surface of said thin film wiring.

13. The semiconductor device according to Claim 12, further comprising a metallic anti-reflective film covering a 30 side surface of said thick film wiring for plug.

14. The semiconductor device according to Claim 13, wherein:

5 said thin film wiring includes a portion formed adjacently to said thick film wiring for plug;

10 said anti-reflective film formed on the surface of the portion of said thin film wiring and said anti-reflective film covering the side surfaces of said thick film wiring for plug form a continuous film.

15. The semiconductor device according to Claim 12, wherein said thick film wiring for plug comprises:

10 a metal film base portion having the same film thickness and kind of material as said thin film wiring;

15 a metallic anti-reflective film covering the surface of said base portion; and

20 a second metal film portion formed on said anti-reflective film.

15 16. The semiconductor device according to Claim 15, wherein:

20 said thin film wiring includes a portion formed adjacently to said thick film wiring for plug;

25 said anti-reflective film interposed between said base metal portion and said second metal portion of said thick film wiring for plug and said anti-reflective film covering the side surfaces of said thick film wiring for plug form a continuous film.

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